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ABSTRACT

This report presents information regarding Zone of Proximal Development (ZPD) guidelines as they relate to the Accelerated Reader program. The report states that a student's zone of proximal development is the range of book readability levels that will challenge a student without causing frustration or loss of motivation. It discusses factors influencing ZPD reading levels which may cause teachers to adjust individual ZPD book levels up or down, noting that the teacher's professional judgment is critically important in establishing effective ZPD levels. Finally, the report discusses factors that cause discrepancies between ZPD guidelines and grade-equivalent scores, concluding that, because of home and classroom factors, an individual student's ZPD level can only be estimated. The report then presents a goal-setting chart for independent reading that includes grade equivalent scores, ZPDs, and point values expected from 60 minutes per day of independent reading. (SR)

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REPORT from the Institute for Academic Excellence

THE INSTITUTE for ACADEMIC EXCELLENCE

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ZPD Guidelines:

Helping Students Achieve Optimum Reading Growth

Introduction

The goal of all reading instruction is to help students become lifelong learners who love to read. To achieve this goal, students must devote substantial time to reading appropriate literature. But matching individual students' abilities to book reading levels is a very difficult process. The Institute for Academic Excellence has found the concept of ZPD to be a useful tool for teachers and librarians engaged in this process.

What Is ZPD?

ZPD stands for Zone of Proximal Development, a theoretical concept borrowed from the Russian child-development psychologist Lev Vygotsky. Vygotsky said that a person acquiring language concepts will learn most effectively if the concepts are not too easy, yet not beyond his or her "language ceiling," or limit to language learning capacity. In independent, literature-based reading, a student's ZPD is the range of book readability levels that will result in optimal growth in reading ability. In other words, it is a range of books that will challenge a student without causing frustration or loss of motivation.

Since 1993, the Institute has published ZPD guidelines showing the relationship between student grade-equivalent scores and a range of book reading levels based on the Flesch-Kincaid (FK) readability scale used in Accelerated Reader. ZPD guidelines are incorporated in the Reading Renaissance goal-setting chart and in the S.T.A.R. computer-adaptive reading test and database. The most recent RR goal-setting chart with recommended ZPD book ranges is attached. These guidelines are based on an analysis of student book reading behavior from school Accelerated Reader data. The 1995 ZPD guidelines were based on data from approximately two thousand students collected during the 1993-1994 school year. The new 1998 ZPD guidelines are based on data collected from a much larger sample of approximately 80,000 students from the 1996-1997 school year. The 1998 ZPD guidelines are approximately 0.5 grade levels higher than the 1995 ZPD guidelines.

Factors Influencing ZPD Reading Levels

Use of the ZPD guidelines appears to be having a very positive impact on student performance. Based on Institute studies conducted during the summer of 1997, students whose teachers have been trained in the use of ZPD at our Reading Renaissance seminars read books that average 0.3 - 0.5 grade levels higher on the FK readability scale than students whose teachers have not been trained in the use of ZPD.

While the impact of the guidelines is very favorable, it is also clear that the guidelines can be misused. The ZPD guidelines are just that—*guidelines* only, based on averages of student data. A student's specific ZPD book-level range can only be estimated because ZPD is the result of highly complex, dynamic interrela-

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tionships among many factors. Individual application of the guidelines requires the professional judgment of a teacher. If the guidelines are applied as an absolute, many students will be frustrated, unmotivated, or underchallenged.

Teachers may need to adjust individual ZPD book levels up or down for a variety of reasons:

- The effects of peers, teachers, and the home. Students whose classmates are reading challenging books are more likely to read challenging books themselves. The home environment has a similar influence. Teachers' expectations and the manner in which those expectations are conveyed also have a very significant impact. Teachers with high expectations tend to get high results.

- Student motivation and interest. A student's personality is an important consideration. Some students thrive on high challenge. Others are easily frustrated. ZPD levels need to be adjusted accordingly.

- Book availability. It is critical to have books available that match the interests and reading levels of individual students. If the school doesn't have a wide range of accessible books, the ZPD level cannot be set as high.

- Measurement error. The standard error of the estimate for the typical reading test is one grade level. Couple this with the error inherent in measuring readability, and the total measurement error can be significant.

All of the factors listed above provide information that only the teacher can obtain and apply to any given student or class. For example, if a student is struggling at a certain level, the teacher may suggest a shorter book within the same level before adjusting the ZPD level downward. On the other hand, a student who is experiencing personal difficulties may respond well to a temporary downward adjustment. A more difficult book on a subject of keen interest may motivate a "stuck" student to move on to a more challenging level. Another student may need more variety at the current level before he or she is ready to move on. In each of these cases, the teacher's professional judgment is critically important in establishing effective ZPD reading levels.

ZPD Guidelines and Grade-Equivalent Scores

Teachers often ask why the recommended book readability range equals or exceeds the grade-equivalent score for lower reading levels, but is substantially less than the grade-equivalent at the upper levels. The discrepancy is the result of several factors:

- The readability measurement scale. Accelerated Reader uses the Flesch-Kincaid readability scale. This scale, like most other readability scales, is roughly based on the highest level at which a student can read short passages. ZPD is *not* based on the highest level at which one can read, but rather the range of books one can read for hours without becoming either frustrated or underchallenged.

- The variation in vocabulary within a given book. At lower reading levels, most books have a controlled vocabulary, which allows students to read on or slightly above their grade-level equivalent. As the student moves up in ability, fewer books have controlled vocabulary, and the likelihood of frustration increases. Consider, for example, the levels at which adults read. Most adults have a post-high school reading ability, yet the average book they read for leisure is at a sixth- to eighth-grade readability level. If forced to read books at or near their reading level, most adults would quickly stop reading for pleasure entirely. The same is true with students.

- Normative student behavior. The ZPD guidelines are based on the actual behaviors observed in the classroom with real books, not an idealized world where students read books on grade level. To gain automaticity and knowledge from reading, as well as to learn new vocabulary, students must read a large quantity of literature. Setting a ZPD level too high will not only result in frustration, but will also significantly reduce the quantity of reading.

Conclusion

ZPD has proven to be an important new tool for teachers to help students read at an optimum level for both growth in reading ability and motivation. But because factors such as home and classroom influences, student personality, book availability, and measurement error all affect student reading behavior, a student's individual ZPD level can only be estimated. Even though the Institute's 1998 ZPD guidelines are based on data collected on 80,000 students, they must remain guidelines rather than absolute rules. At the end of the day, the positive impact of the ZPD guidelines depends on the classroom teacher and school librarian using their professional judgment in its application. Above all, students need knowledgeable teachers and librarians to help them achieve the goal of becoming skilled lifelong readers who love to read.

Goal-Setting Chart for Independent Reading

Grade Equivalent Score	ZPD		Point Values Expected from 60 minutes per day of Independent Reading			
	Average	Range	WK	6 WKS	9 WKS	YR
1.0	1.5	1.0 - 2.0	1.7	10	15	60
1.5	2.0	1.5 - 2.5	1.9	11	17	68
2.0	2.5	2.0 - 3.0	2.1	13	19	75
2.5	2.8	2.3 - 3.3	2.3	14	21	84
3.0	3.1	2.6 - 3.6	2.5	15	23	90
3.5	3.4	2.8 - 4.0	2.7	16	24	97
4.0	3.7	3.1 - 4.3	2.8	17	25	100
4.5	4.1	3.4 - 4.7	3.2	19	29	116
5.0	4.4	3.7 - 5.1	3.5	21	32	125
5.5	4.8	4.0 - 5.5	3.9	23	35	140
6.0	5.1	4.3 - 5.9	4.2	25	39	150
6.5	5.5	4.6 - 6.3	4.6	28	41	164
7.0	5.8	4.9 - 6.7	4.9	29	44	175
7.5	6.1	5.1 - 7.1	5.3	32	48	192
8.0	6.3	5.2 - 7.5	5.6	34	50	200
9.0	6.6	5.3 - 8.3	6.3	38	57	225
10.0	6.9	5.4 - 9.1	6.9	41	62	250
11.0	7.2	5.5 - 9.9	7.6	46	68	275
12.0	7.5	5.6 - 10.7	8.3	50	75	300

This chart is a guideline only. It is based on data available as of the fall of 1997. Both grade-equivalent scores and book readability levels are approximations. Use your professional judgment to adjust ZPD ranges and point goals to match individual students, taking into account such factors as a student's prior knowledge, appetite for challenge, interest, and need for variety. When moving students to higher ZPD levels, consider suggesting shorter books.

For nonfiction, subtract 0.5 to 1 year from the ZPD ranges shown above.

For more information, or for additional copies of this report, write or call:

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